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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------------|------------------------|
| 09/934,310 | 08/21/2001 | G. David Jang | S63.2-10078 | 8078 |
| 490 7590 05/21/2007 VIDAS, ARRETT & STEINKRAUS, P.A. 6109 BLUE CIRCLE DRIVE SUITE 2000 MINNETONKA, MN 55343-9185 | | | EXAMINER PREBILIC, PAUL B | |
| | | | ART UNIT 3738 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/934,310

Applicant(s)

JANG, G. DAVID

Examiner

Paul B. Prebilic

Art Unit

3738

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 50-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/26/07.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 26, 2007 has been entered.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The claim language referring to “annular elements”, “openings”, a “pattern of openings”, flexibility differences between the ends, and the majority of the length of the stent being tapered does not have proper antecedent basis from the specification.

Claim Objections

Claims 54-55 are objected to because of the following informalities:

With regard to claim 54, on line 1, “its” is an indefinite pronoun because it is not clear whether “its” refers to the stent or the taper. The Examiner suggests changing “its longitudinal length” to ---a longitudinal length of the stent--- in order to overcome this objection.

On lines 1-2 of claim 54, “the diameter” lacks antecedent basis since no diameter or element inherently having a diameter is disclosed.

On line 2 of claim 54, the terminology "stent comprising" is unclear since features of the stent have already been set forth. The Examiner suggests using the language --- further comprising--- to overcome this objection.

With regard to claim 55, it is unclear what element is made of expandable material. The Examiner suggests changing the claim language to read: ---The stent of claim 54, where the stent is made of a balloon expandable material---. Appropriate correction is required.

Claim Rejections Based Upon Prior Art

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 50-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al (US 5,421,955) in view of Alt et al (US 5,843,117) or Limon et al (US 6,027,526). Lau discloses tapering a stent that has the same number of struts in each segment and altering the radial stiffness of the stent by varying the amplitude of the undulating annular segments; see the figures and column 4, lines 48-53 and column 5, line 61 to column 6, line 2. The "amplitude of undulations" inherently refers to the strut lengths where the undulation amplitude or strut length can be varied to alter the properties of the stent. Since the taper is to match the blood vessel and since blood vessels taper, along their lengths, from a larger diameter to a smaller diameter, the

Examiner asserts that it would have been *prima facie* obvious to taper the Lau stent in this manner and along a majority of the length thereof by varying the undulation amplitude or strut length gradually in order to taper the stent diameter gradually.

With regard to claims 50-53, Lau suggests varying the radial flexibility (i.e. radial stiffness) but not specifically from one end to another. However, Alt teaches that it was known to vary the radial thickness and stiffness with struts of substantially the same circumferential width; see Figure 11 and column 18, lines 62 to column 19, line 17. Likewise, Limon teaches that it was known to do the same but from one end to another; see particularly Figure 18 and column 7, lines 24-38. Therefore, it is the Examiner's position that it would have been obvious to vary the radial flexibility for the same reasons that Limon or Alt does the same.

With regard to claim 52, the Applicant is referred to Figure 6 and column 7, lines 7-30 that discloses the claimed method steps.

Claims 54-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al (US 5,421,955) alone. Lau discloses tapering a stent that has the same number of struts in each segment and altering the radial stiffness of the stent by varying the amplitude of the undulating annular segments; see the figures and column 4, lines 48-53 and column 5, line 61 to column 6, line 2. The "amplitude of undulations" inherently refers to the strut lengths where the undulation amplitude or strut length can be varied to alter the properties of the stent. Since the taper is to match the blood vessel and since blood vessels taper, along their lengths, from a larger diameter to a smaller diameter, the Examiner asserts that it would have been *prima facie* obvious to

taper the Lau stent in this manner and along a majority of the length thereof by varying the undulation amplitude (i.e. strut length) gradually in order to taper the stent diameter gradually.

Response to Arguments

Applicant's arguments filed April 26, 2007 have been fully considered but they are not persuasive. In particular, the Examiner has altered the language of the rejection to address the new language and arguments presented.

Conclusion

Applicant should specifically point out the support for any amendments made to the disclosure, including the claims (MPEP 714.02 and 2163.06). Due to the procedure outlined in MPEP 2163.06 for interpreting claims, it is noted that other art may be applicable under 35 USC 102 or 35 USC 103(a) once the aforementioned issue(s) is/are addressed.

Applicant is respectfully requested to provide a list of all copending applications that set forth similar subject matter to the present claims. A copy of such copending claims is respectfully requested in response to this Office action if the application is not stored in image format (i.e. the IFW system) or published.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Paul B. Prebilic whose telephone number is (571) 272-4758. He can normally be reached on 6:30-5:00 M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Corrine McDermott can be reached on 571-272-4754. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Prebilic
Primary Examiner
Art Unit 3738